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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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PATENT DEPARTMENT
MACROVISION CORPORATION
2830 DE LA CRUZ BLVD.
SANTA CLARA, CA 95050

EXAMINER

SCHUBERT, KEVIN R

ART UNIT PAPER NUMBER

2137

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,146

Applicant(s)

HEYLEN, RICHARD A.A.

Examiner

Kevin Schubert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10102001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-29 have been considered.

Claim Objections

5 Claim 1 is objected to because the claim unnecessarily repeats the phrase "method of copy protecting the optical disc". Repeating the phrase only adds nothing but confusion to the claim. The examiner suggests that the phrase "and the method of copy protecting the optical disc" be taken out of the claim.

Claim Rejections - 35 USC § 112

10 The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

15

Claims 5,8,9,17,18,22,23,25,28, and 29 are rejected under 35 USC 112.

As per claims 5,14, and 25, the term "significant" is a relative term which renders the claim indefinite. The term "significant" is not defined by the claim, the specification does not
20 provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

As per claims 8,17, and 28, the term "rapid" is a relative term which renders the claim indefinite. The term "rapid" is not defined by the claim, the specification does not provide a
25 standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

As per claims 9 and 18, the term "substantial" is a relative term which renders the claim indefinite. The term "substantial" is not defined by the claim, the specification does not provide a

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standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

As per claims 22 and 23, the term "generally" is a relative term which renders the claim indefinite. The term "generally" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,3-9,11-19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hogan, U.S. Patent No. 5,699,434.

As per claims 1 and 11, the applicant claims a method of copy protecting an optical disc carrying encoded data, control data, and an authenticating signature with the following limitation which is met by Hogan:

Making up the authenticating signature from data patterns such that the authenticating signature cannot be accurately written onto a copy disc by a writer for recordable discs (Col 3, lines 48-60);

Hogan discloses a method of inhibiting copying of digital data by inserting errors into encoded data so that large values of DSV, and therefore copying problems, are created when standard encoders try to copy digital data. The authenticating signature is the error patterns which are inserted into the data at designated areas so as to increase the value of DSV. The use

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of data encoded through an EFM encoder (Col 2, lines 41-45) and control data in the form of merge bits (Col 2, lines 53-53) in addition to the authenticating signature of error patterns is disclosed by Hogan.

5 As per claim 3, the applicant describes the method of claim 1, which is anticipated by Hogan (see above), with the following limitation which is also anticipated by Hogan:

Wherein successful operation of the copy protected disc requires that the disc be present in the drive and that a correct signature be readable therefrom (Fig 1; Col 4, lines 18-21);

10 The applicant should note that the primary reference is taught in the context of an optical disc which has to be present in the drive in order to be read (Fig 1). The applicant should also note that special encoders encode so that the authenticating signature (inserted errors), and therefore the original data, can be accurately recovered in a successful operation. Standard encoders encode so that the authenticating signature (inserted errors), and therefore the original data, cannot be accurately recovered in an unsuccessful operation (Col 4, lines 18-21).

15

As per claims 4,13, and 21, the applicant describes the method of claims 1,11, and 20 respectively, which are anticipated by Hogan (see above), with the following limitation which is also anticipated by Hogan:

20 Wherein the data patterns of the authenticating signature are chosen to cause DSV problems for CD writers (Col 3, lines 45-47).

As per claims 5 and 14, the applicant describes the method of claims 4 and 13, which are anticipated by Hogan (see above), with the following limitation which is also anticipated by Hogan:

25 Wherein the data patterns are chosen to ensure that the DSV has a significant absolute value (Col 3, lines 43-47).

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As per claims 6 and 15, the applicant describes the method of claims 4 and 13, which are anticipated by Hogan (see above), with the following limitation which is also anticipated by Hogan:

Wherein the data patterns which are chosen to cause DSV problems are repeated
5 patterns of values (Fig 3A, Fig 3B, Col 3, lines 48-59);

The applicant should note that the data patterns which are chosen are not random values but specially selected values to increase the DSV. The applicant should also note the repeated pattern of values in Fig 3A and Fig 3B (which is an extension of Fig 3A). The sequence goes 80,132,220,154,220,154,... (Fig 3A, Fig3B, Col 6, lines 60-61).

10

As per claims 7 and 16, the applicant describes the method of claims 4 and 13, which are anticipated by Hogan (see above), with the following limitation which is also anticipated by Hogan:

Wherein the size of the data patterns causing the DSV problems is a predetermined
15 amount (Col 6, lines 42-49);

As described in the lines referenced above the size and number of the data patterns can be a predetermined amount which depends on the application. Video, for example, should include "'protected blocks'...every 15 to 20 seconds" (Col 6, lines 48-49).

20

As per claims 8 and 17, the applicant describes the method of claims 4 and 13, which are anticipated by Hogan (see above), with the following limitation which is also anticipated by Hogan:

Wherein the data patterns which are chosen to cause DSV problems are arranged to have a DSV which has a rapid rate of change (Fig 3A, Fig 3B, Col 6, lines 8-25);

25

As one can tell from Fig 3B (which is a continuation of Fig 3A) and the lines referenced above, the DSV changes rapidly in order to cause problems for the standard encoder.

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As per claims 9 and 18, the applicant describes the method of claims 4 and 13, which are anticipated by Hogan (see above), with the following limitation which is also anticipated by Hogan:

Wherein data patterns which are chosen to cause DSV problems are arranged to
5 produce a DSV which has a substantial low frequency component (Col 3, lines 43-47);

It is well known in the art that the DSV is the representation of the low frequency or DC component. A high DSV leads to a substantial low frequency component.

As per claim 12, the applicant describes the copy protected optical disc of claim 11,
10 which is anticipated by Hogan (see above), with the following limitation which is also anticipated by Hogan:

Wherein the data patterns of the authenticating signature have a size and/or nature which ensures that they cannot be accurately written by a CD writer (Col 3, lines 48-59; Col 1, lines 19-23);

15 The applicant should note that the use of a CD writer is anticipated by Hogan because the primary reference teaches a method of inhibiting copying of an optical disc or CD (Col 1, lines 19-23) by a standard encoder, or CD writer. The applicant should also note that the nature of the authenticating signature (inserted errors) ensuring that the disc cannot be accurately written by a CD writer is also anticipated by Hogan (Col 3, lines 48-59).

20 As per claim 19, the applicant describes the copy protected optical disc of claim 13, which is anticipated by Hogan (see above), with the following additional limitation which is also anticipated by Hogan:

Wherein the chosen data patterns have been copied to a plurality of sectors on the
25 optical disc (Col 6, lines 42-49);

As described in the lines referenced, the data patterns can be inserted to protect a number of blocks of data depending on the application and the user's preference. The data patterns therefore, can represent one sector, a plurality of sectors, or all sectors of a disc.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

5 A person shall be entitled to a patent unless –

 (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10

15 Claims 20,22, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Newman, U.S. Patent No. 6,353,890.

 As per claim 20, the applicant describes a method of authenticating a copy protected optical disc carrying encoded data, control data, and an authenticating signature with the following limitation which is met by Newman:

20

 Requiring a disc drive to locate and accurately read the authenticating signature on the disc in order to enable operation of the copy protected disc (Col 9, lines 66-67; Col 10, lines 1-21);

 Newman discloses that logical errors which are included in the original disc and not the copy authenticate the disc and represent the authenticating signature: "As a copy will not comprise the logical errors, the copy will be rejected and the access to the information will be barred" (Col 10, lines 19-21). Also since the medium of the preferred embodiment is a disc, such as a CDROM, the disc would have encoded data and control data such as merge bits. The authenticating signature is the bad sector or sectors of the disc.

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As per claim 22, the applicant describes a method of enabling the mastering of an optical disc which carries a blocking file which cannot be accurately read by a disc drive comprising the following limitation which is anticipated by Newman:

Providing on the recordable disc information as to the existence and location of the
5 blocking file, the drive associated with the encoder being arranged not to read the blocking file in response to said existence and location information (Col 9, lines 66-67; Col 10, lines 1-21);

As described in the lines referenced above, providing information as to the existence and location of the blocking file may take the form of a pattern or license code stored on the record carrier (Col 10, lines 2-3) which gives the user existence and location information about the
10 blocking file. The user can then locate the access control means (blocking file) to authenticate the disc.

The applicant should note that the encoder is arranged not to read the blocking file because the blocking file contains uncorrectable errors and cannot be read. Rather the encoder is arranged according to the location and existence of the blocking file to pick out and identify the
15 errors of the blocking file as an authentication signature.

As per claim 23, the applicant describes a recordable disc for use in a process for mastering optical discs with the following limitations which are met by Newman:

a) wherein the recordable disc carries the data to be carried on the optical discs (Col 9,
20 lines 66-67; Col 10, lines 1-21);

b) wherein the recordable disc carries a blocking file made up of data patterns added to a recordable disc during the authoring or premastering process (Col 9, lines 66-67; Col 10, lines 1-21);

c) wherein the data patterns cannot generally be accurately read by a disc drive (Col 9,
25 lines 66-67; Col 10, lines 1-21);

Newman describes a system in which a sector or sectors of a CD are provided with a pattern of errors which cannot be corrected by the error correcting rules and thereby constitute an uncorrectable or bad sector on the disc which is a blocking file of data. The uncorrectable sector

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or blocking file is then used to authenticate the disc. Thus, the sector cannot be accurately read by a disc drive since the error correcting rules cannot correct the data, but the errors can be identified for authentication purposes.

Thus, while Hogan (the primary reference) teaches that the data can be read from an optical disc but not written to another optical disc, Newman teaches that there are some sectors which are blocked and therefore cannot be read or written to because the correcting rules cannot correct the data. These sectors which cannot be read or written can be used for authentication purposes as they are essentially authentication signatures.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan in view of Newman.

As per claim 2, the applicant describes the method of claim 1, which is anticipated by Hogan, with the following additional limitation which is anticipated by Newman:

Wherein the existence of corrupted or otherwise incorrect data in a particular sector on the optical disc is to be used to signify that that disc is not original whereby its use may be prevented (Col 10, lines 14-21);

Hogan describes all the limitations of claim 1. However, Hogan fails to identify the use of corrupt or incorrect data on a particular sector to signify that the disc is not original. The errors in Hogan's system only serve to create a large DSV which inhibits copying of the disc. The errors in

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Newman's system serve to signify that the disc is or is not original. If the disc is not original, its use is not permitted.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Hogan with those of Newman and allow for the data patterns to
5 authenticate whether use of a disc is or is not permitted because doing this installs an additional security feature in the system.

As per claim 10, the applicant describes the method of claim 1 or claim 4, which are both anticipated by Hogan (see above), with the following additional limitation which is anticipated by

10 Newman:

Wherein the authenticating signature is also made up of sectors containing only zeros which are provided both before and after sectors containing the chosen data patterns (Col 3, lines 15-20; Col 3, lines 60-65);

Hogan describes all the limitations of claims 1 and 4. However, Hogan fails to describe
15 the use of padding sectors with zeros before and after sectors containing chosen data patterns.

As described by the applicant in the specification, sectors in the disc can be padded in order to facilitate reading or normal play of the optical disc. According to Newman, unused sectors of the disc can be padded in order to facilitate the operation of the optical disc in that it is easier for standard reading devices to process information in this error and non-error sector
20 format (Col 3, lines 20-25).

Though Newman does not discuss the specific use of only zeros, he does say that these areas are error free and a simple error free sector is one containing only zeros. Furthermore, the use of having sectors containing zeros next to sectors containing data patterns is disclosed by Newman: "at least one non-error location is selected which adjoins an error location" (Col 3, lines
25 60-65). Newman has the sector non-error sector adjoin the sector of error patterns for ease in processing of the access control information.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Newman with those of Hogan and add sectors containing only zeros

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before and after the sectors containing data patterns because it is easier for standard reading devices to process information in this format.

Claims 21 and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over

5 Newman in view of Hogan.

As per claims 21 and 24, the applicant describes the process for mastering optical discs according to claims 20 and 23, which are anticipated by Newman, with the following additional limitation which is anticipated by Hogan:

10 Wherein the data patterns of the blocking file are chosen to cause DSV problems (Col 3, lines 45-47);

 Newman describes all the limitations of claims 20 and 23. However, Newman's system fails to disclose the use of manipulating the DSV. Hogan, as described earlier, discusses a method of manipulating the DSV so that optical discs cannot be illegally copied. It would have
15 been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Newman with those of Hogan because Hogan adds the additional limitation of manipulating the DSV to prevent copying.

 As per claims 25-29, the applicant further limits claim 24, which is met by Newman in
20 view of Hogan with limitations met by Hogan's system that have already been discussed. Claim 25 is met by claim 5. Claim 26 is met by claim 6. Claim 27 is met by claim 7. Claim 28 is met by claim 8. Claim 29 is met by claim 9. Since claims 25-29 are all variations of how to manipulate the DSV which have been dealt with above and it would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Hogan with those of
25 Newman to add the additional limitation of manipulating the DSV to prevent copying, claims 25-29 are rejected.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Schubert whose telephone number is (571) 272-4239. The examiner can normally be reached on M-F 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Andrew Caldwell
Andrew Caldwell